FIG.1

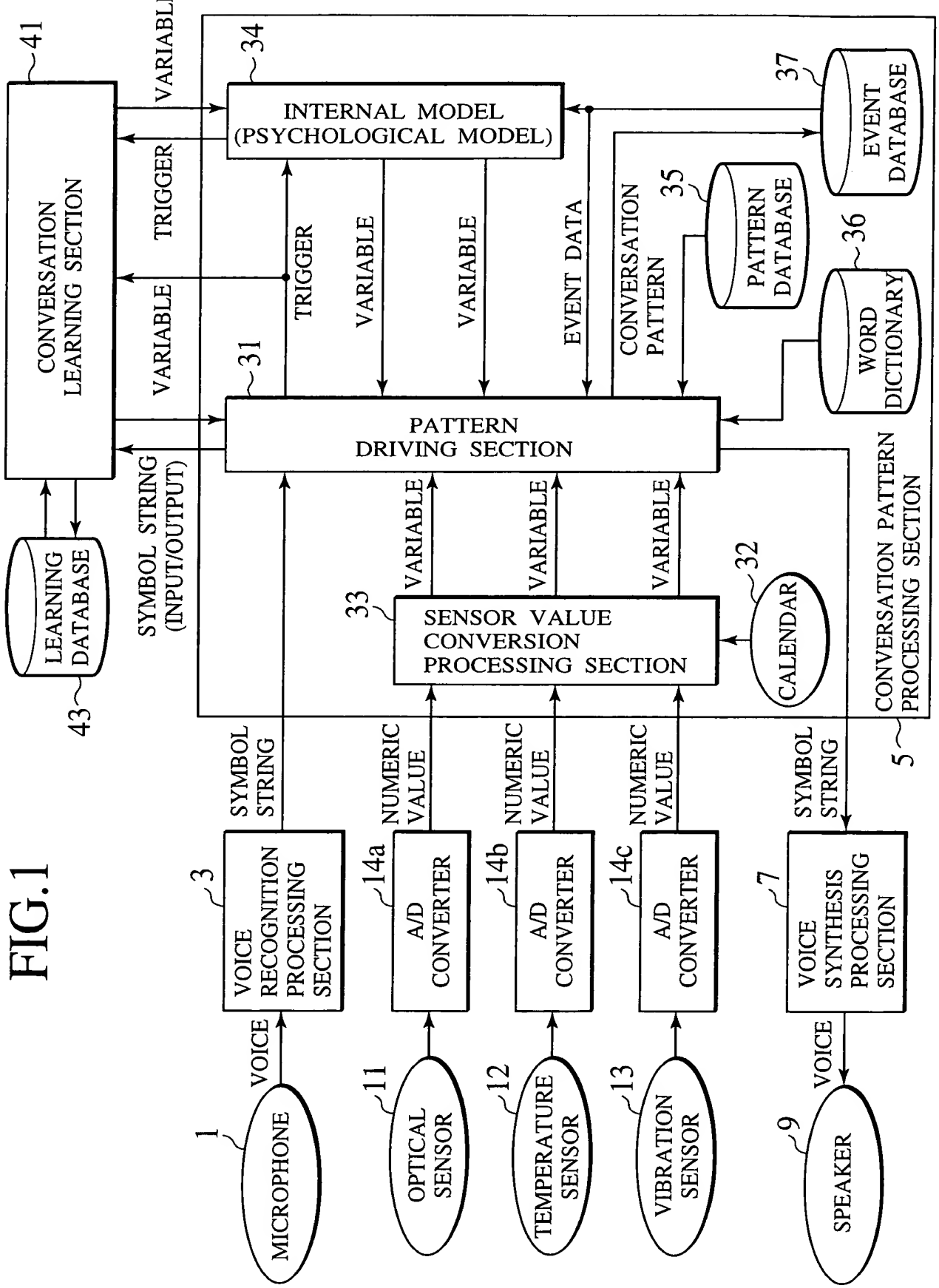

MICROPHONE
OPTICAL SENSOR
TEMPERATURE SENSOR
VIBRATION SENSOR
SPEAKER
VOICE
VOICE RECOGNITION PROCESSING SECTION
A/D CONVERTER
A/D CONVERTER
A/D CONVERTER
VOICE SYNTHESIS PROCESSING SECTION
SYMBOL STRING
NUMERIC VALUE
NUMERIC VALUE
NUMERIC VALUE
SYMBOL STRING
SENSOR VALUE CONVERSION PROCESSING SECTION
CALENDAR
VARIABLE
VARIABLE
VARIABLE
CONVERSATION PATTERN PROCESSING SECTION
PATTERN DRIVING SECTION
SYMBOL STRING (INPUT/OUTPUT)
LEARNING DATABASE
CONVERSATION LEARNING SECTION
VARIABLE
TRIGGER
VARIABLE
TRIGGER
VARIABLE
VARIABLE
EVENT DATA
CONVERSATION PATTERN
INTERNAL MODEL (PSYCHOLOGICAL MODEL)
WORD DICTIONARY
PATTERN DATABASE
EVENT DATABASE
1
11
12
13
9
3
14a
14b
14c
7
43
41
31
33
32
5
34
36
35
37

FIG.2

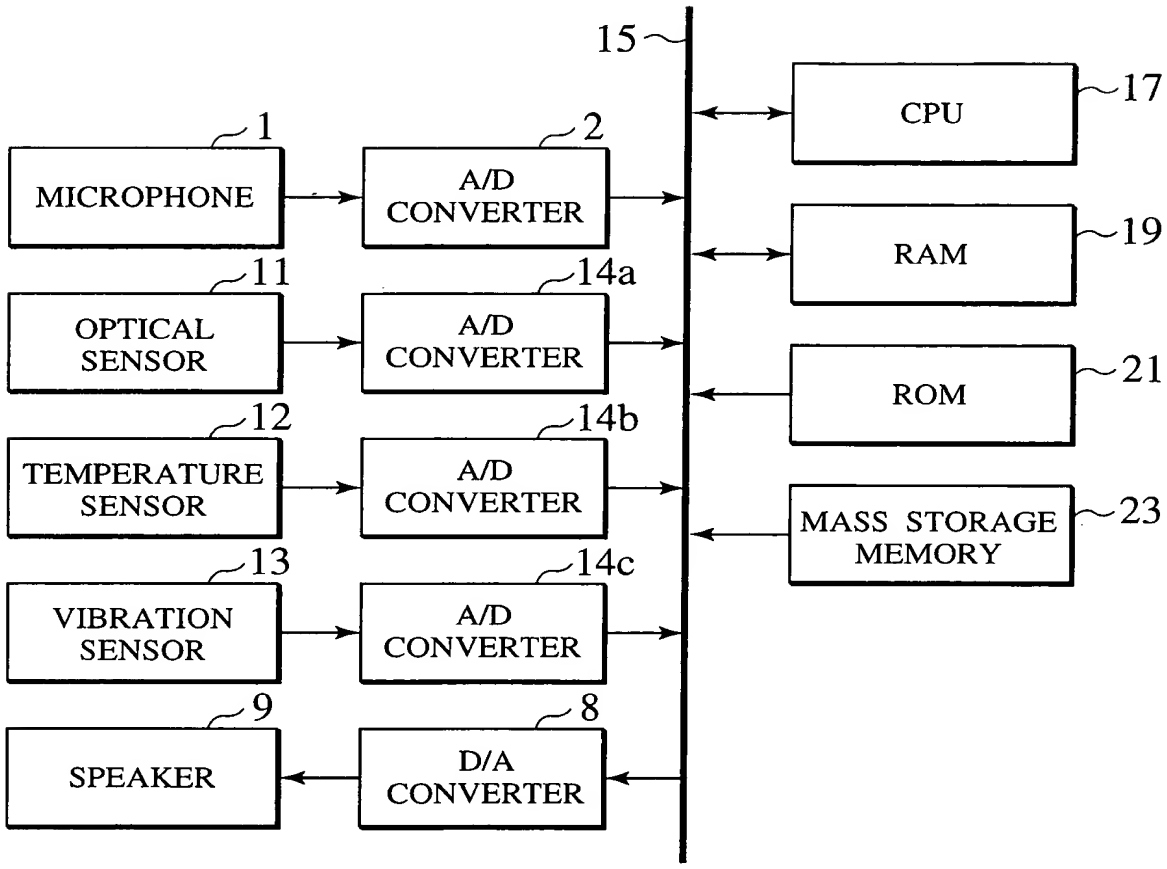

15
CPU
17
1
MICROPHONE
2
A/D CONVERTER
RAM
19
11
OPTICAL SENSOR
14a
A/D CONVERTER
ROM
21
12
TEMPERATURE SENSOR
14b
A/D CONVERTER
MASS STORAGE MEMORY
23
13
VIBRATION SENSOR
14c
A/D CONVERTER
9
SPEAKER
8
D/A CONVERTER

FIG.3

38 EVENT DATA TABLE

REGISTRATION TIME STAMP	ACQUISITION MEANS	NUMBER OF DATA	DATA[0]=DATA NAME		DATA[1]=ATTRIBUTE 1		DATA[2]=ATTRIBUTE 2	
			ATTRIBUTE ID	ATTRIBUTE VALUE	ATTRIBUTE ID	ATTRIBUTE VALUE	ATTRIBUTE ID	ATTRIBUTE VALUE
1999.7.20.0:00	SYSTEM REGISTRATION	3	1001	SHINJO	1002	HANSHIN	1004	CENTER FIELDER
1999.7.20.0:00	SYSTEM REGISTRATION	3	1001	YABU	1002	HANSHIN	1004	PITCHER
⋮								
1999.7.25.16:00	USER UTTERANCE	1	1	SAPPORO				
1999.7.25.16:20	CHARACTER BROADCASTING	2	20	FINE WEATHER	2	JULY 21		
⋮								

FIG.4

EVENT ATTRIBUTE TABLE 39

ATTRIBUTE ID	ATTRIBUTE NAME
1	DESTINATION
2	DATE
⋮	
20	WEATHER
⋮	
1001	NAME OF PLAYER: BASEBALL
1002	TEAM NAME: BASEBALL
1003	BATTING AVERAGE: BASEBALL
1004	POSITION: BASEBALL
⋮	

FIG.5

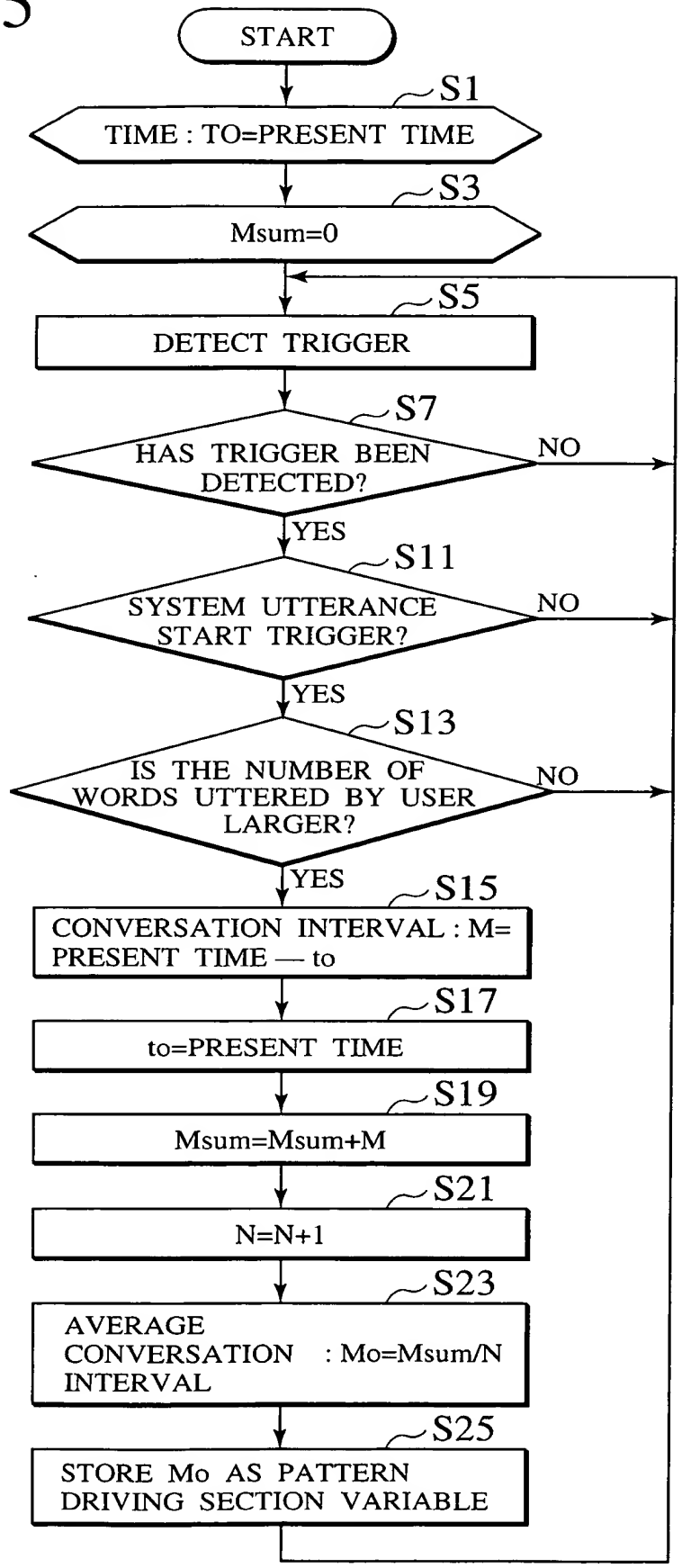

START
S1
TIME : TO=PRESENT TIME
S3
Msum=0
S5
DETECT TRIGGER
S7
HAS TRIGGER BEEN DETECTED?
NO
YES
S11
SYSTEM UTTERANCE START TRIGGER?
NO
YES
S13
IS THE NUMBER OF WORDS UTTERED BY USER LARGER?
NO
YES
S15
CONVERSATION INTERVAL : M= PRESENT TIME — to
S17
to=PRESENT TIME
S19
Msum=Msum+M
S21
N=N+1
S23
AVERAGE CONVERSATION INTERVAL : Mo=Msum/N
S25
STORE Mo AS PATTERN DRIVING SECTION VARIABLE

FIG.6

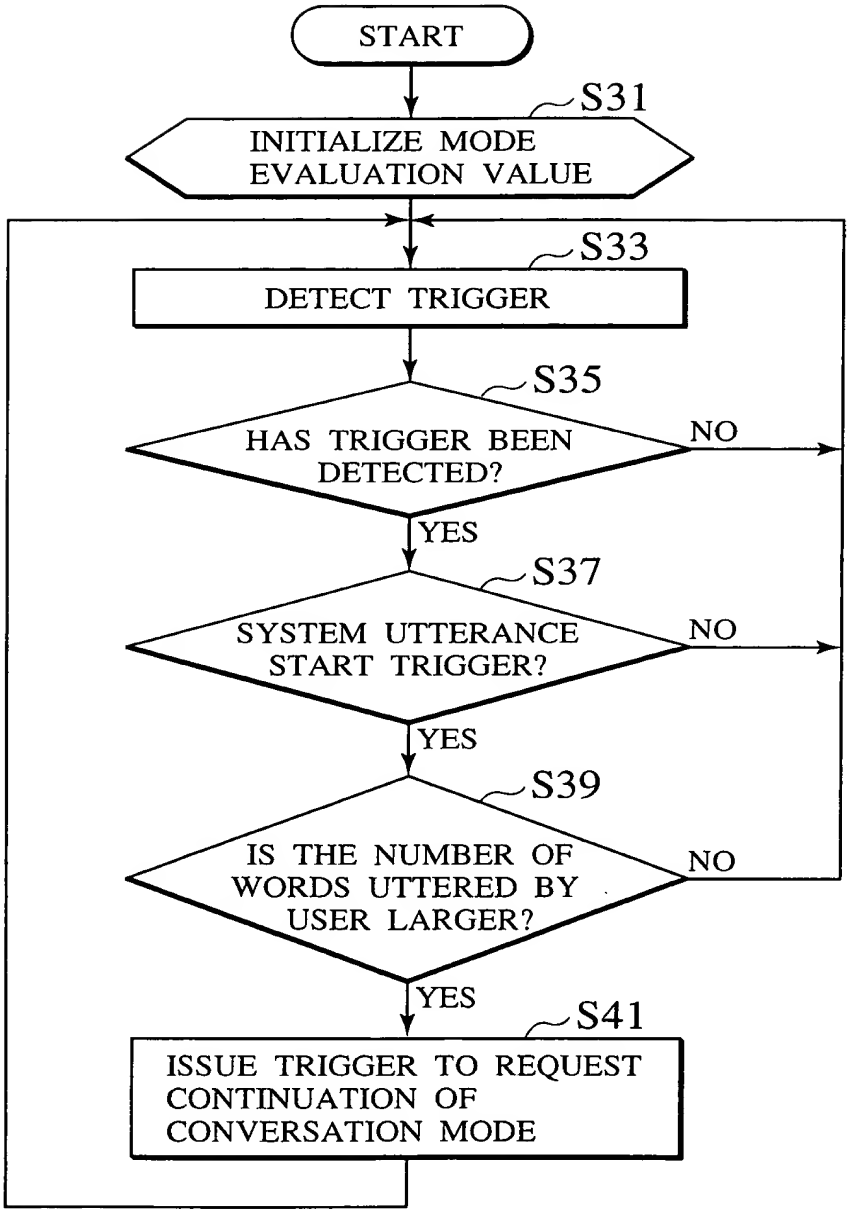

START
S31
INITIALIZE MODE EVALUATION VALUE
S33
DETECT TRIGGER
S35
HAS TRIGGER BEEN DETECTED?
NO
YES
S37
SYSTEM UTTERANCE START TRIGGER?
NO
YES
S39
IS THE NUMBER OF WORDS UTTERED BY USER LARGER?
NO
YES
S41
ISSUE TRIGGER TO REQUEST CONTINUATION OF CONVERSATION MODE

FIG.7

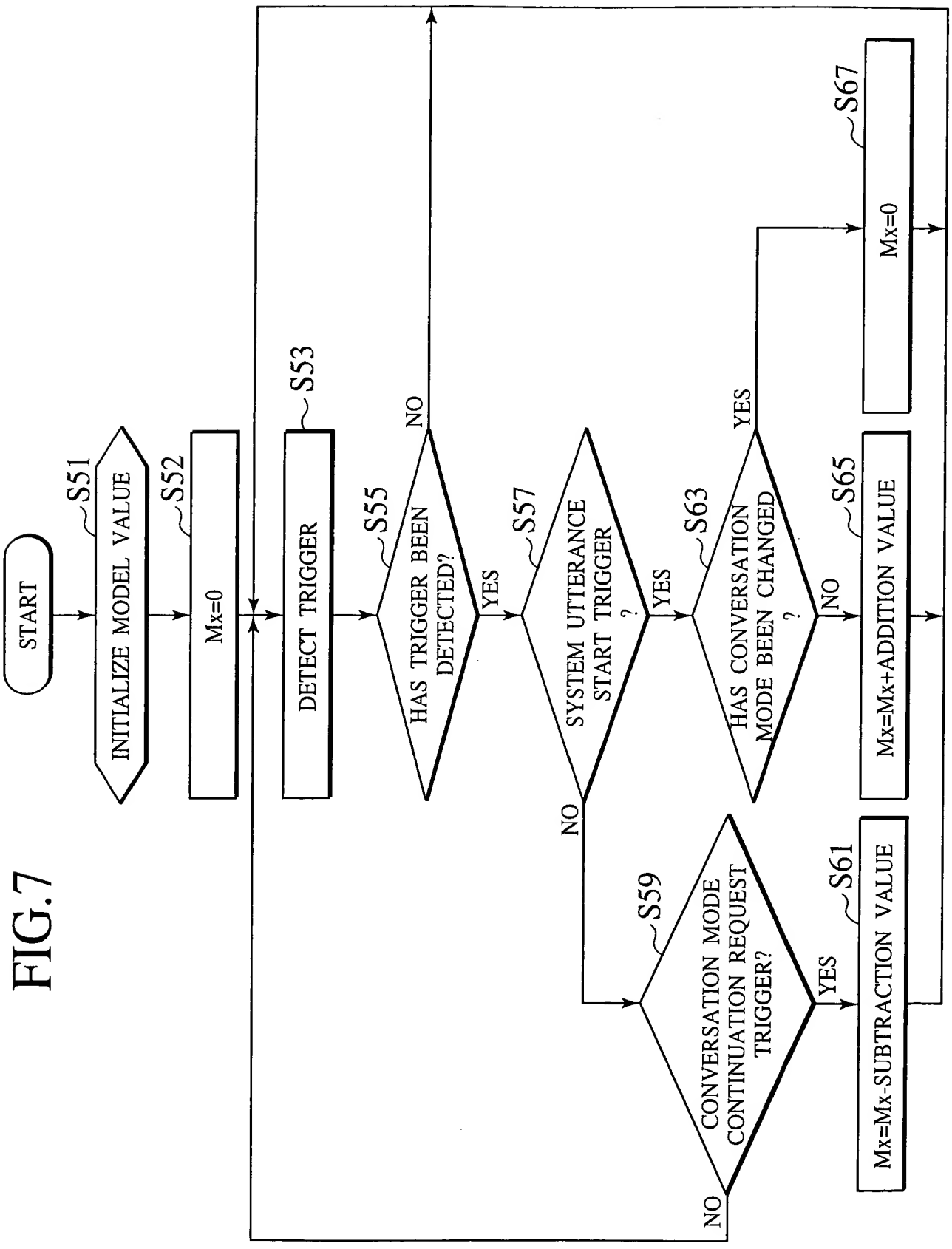

START
S51
INITIALIZE MODEL VALUE
S52
Mx=0
S53
DETECT TRIGGER
S55
HAS TRIGGER BEEN DETECTED?
NO
YES
S57
SYSTEM UTTERANCE START TRIGGER ?
YES
S63
HAS CONVERSATION MODE BEEN CHANGED ?
YES
S67
Mx=0
NO
S65
Mx=Mx+ADDITION VALUE
NO
S59
CONVERSATION MODE CONTINUATION REQUEST TRIGGER?
YES
S61
Mx=Mx-SUBTRACTION VALUE
NO

FIG.8

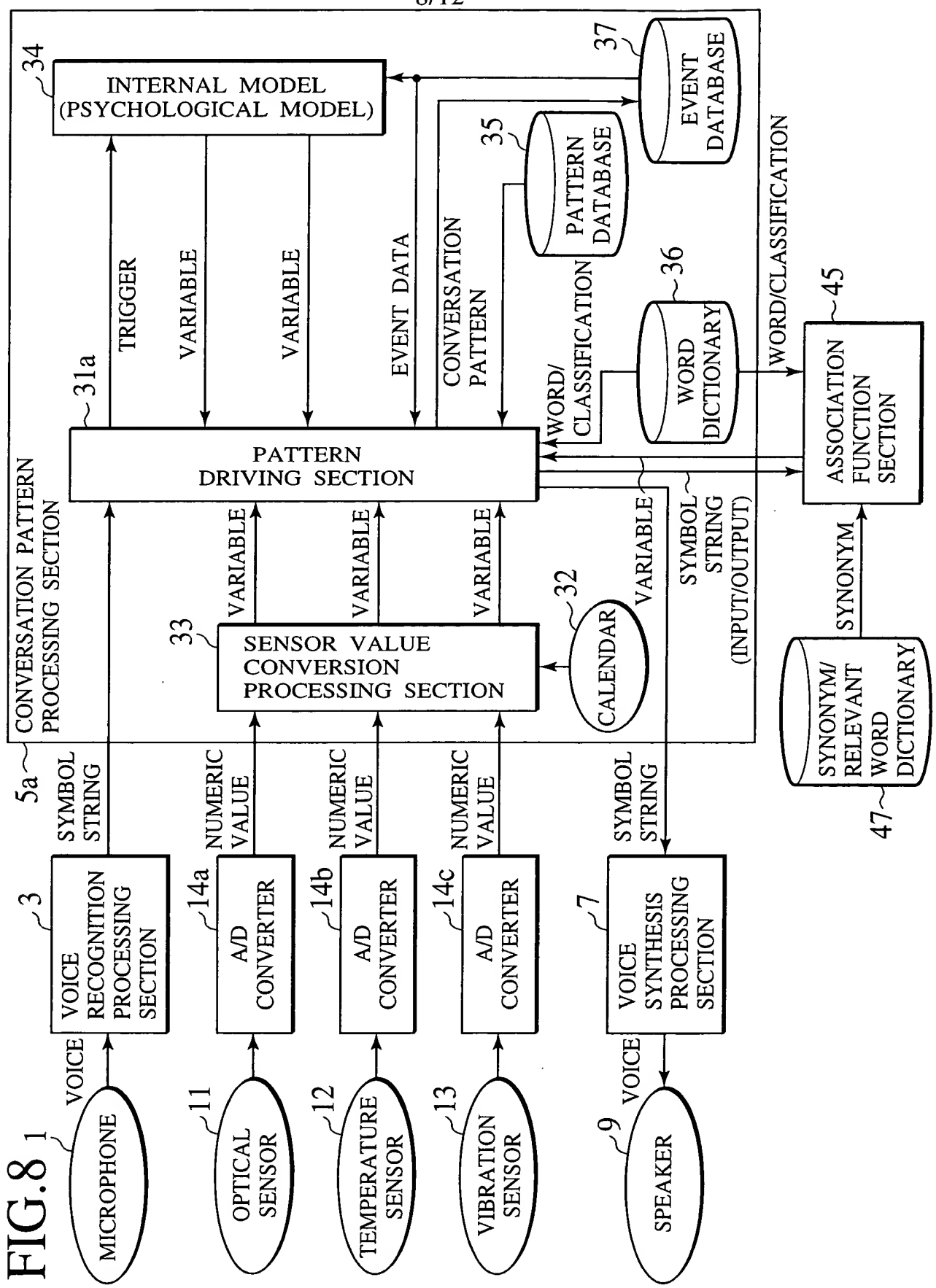

1
MICROPHONE
VOICE
3
VOICE RECOGNITION PROCESSING SECTION
11
OPTICAL SENSOR
14a
A/D CONVERTER
12
TEMPERATURE SENSOR
14b
A/D CONVERTER
13
VIBRATION SENSOR
14c
A/D CONVERTER
9
SPEAKER
VOICE
7
VOICE SYNTHESIS PROCESSING SECTION
5a
CONVERSATION PATTERN PROCESSING SECTION
SYMBOL STRING
NUMERIC VALUE
NUMERIC VALUE
NUMERIC VALUE
SYMBOL STRING
34
INTERNAL MODEL (PSYCHOLOGICAL MODEL)
31a
PATTERN DRIVING SECTION
33
SENSOR VALUE CONVERSION PROCESSING SECTION
32
CALENDAR
TRIGGER
VARIABLE
VARIABLE
VARIABLE
VARIABLE
VARIABLE
VARIABLE
EVENT DATA
CONVERSATION PATTERN
WORD/ CLASSIFICATION
SYMBOL STRING (INPUT/OUTPUT)
37
EVENT DATABASE
35
PATTERN DATABASE
36
WORD DICTIONARY
WORD/CLASSIFICATION
45
ASSOCIATION FUNCTION SECTION
SYNONYM
47
SYNONYM/ RELEVANT WORD DICTIONARY

FIG.9

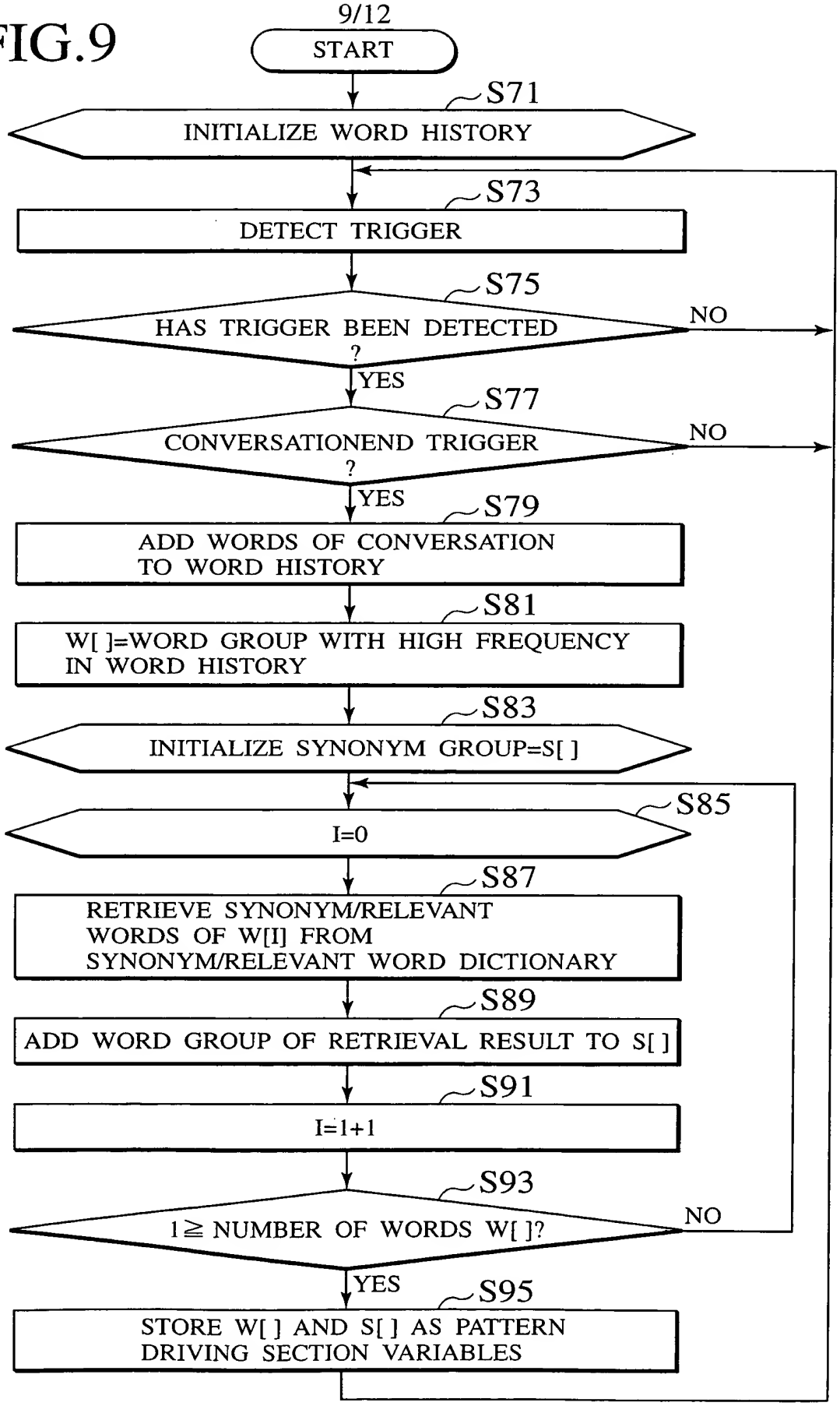

START
S71
INITIALIZE WORD HISTORY
S73
DETECT TRIGGER
S75
HAS TRIGGER BEEN DETECTED ?
NO
YES
S77
CONVERSATIONEND TRIGGER ?
NO
YES
S79
ADD WORDS OF CONVERSATION TO WORD HISTORY
S81
W[ ]=WORD GROUP WITH HIGH FREQUENCY IN WORD HISTORY
S83
INITIALIZE SYNONYM GROUP=S[ ]
S85
I=0
S87
RETRIEVE SYNONYM/RELEVANT WORDS OF W[I] FROM SYNONYM/RELEVANT WORD DICTIONARY
S89
ADD WORD GROUP OF RETRIEVAL RESULT TO S[ ]
S91
I=1+1
S93
1≧ NUMBER OF WORDS W[ ]?
NO
YES
S95
STORE W[ ] AND S[ ] AS PATTERN DRIVING SECTION VARIABLES

FIG.10

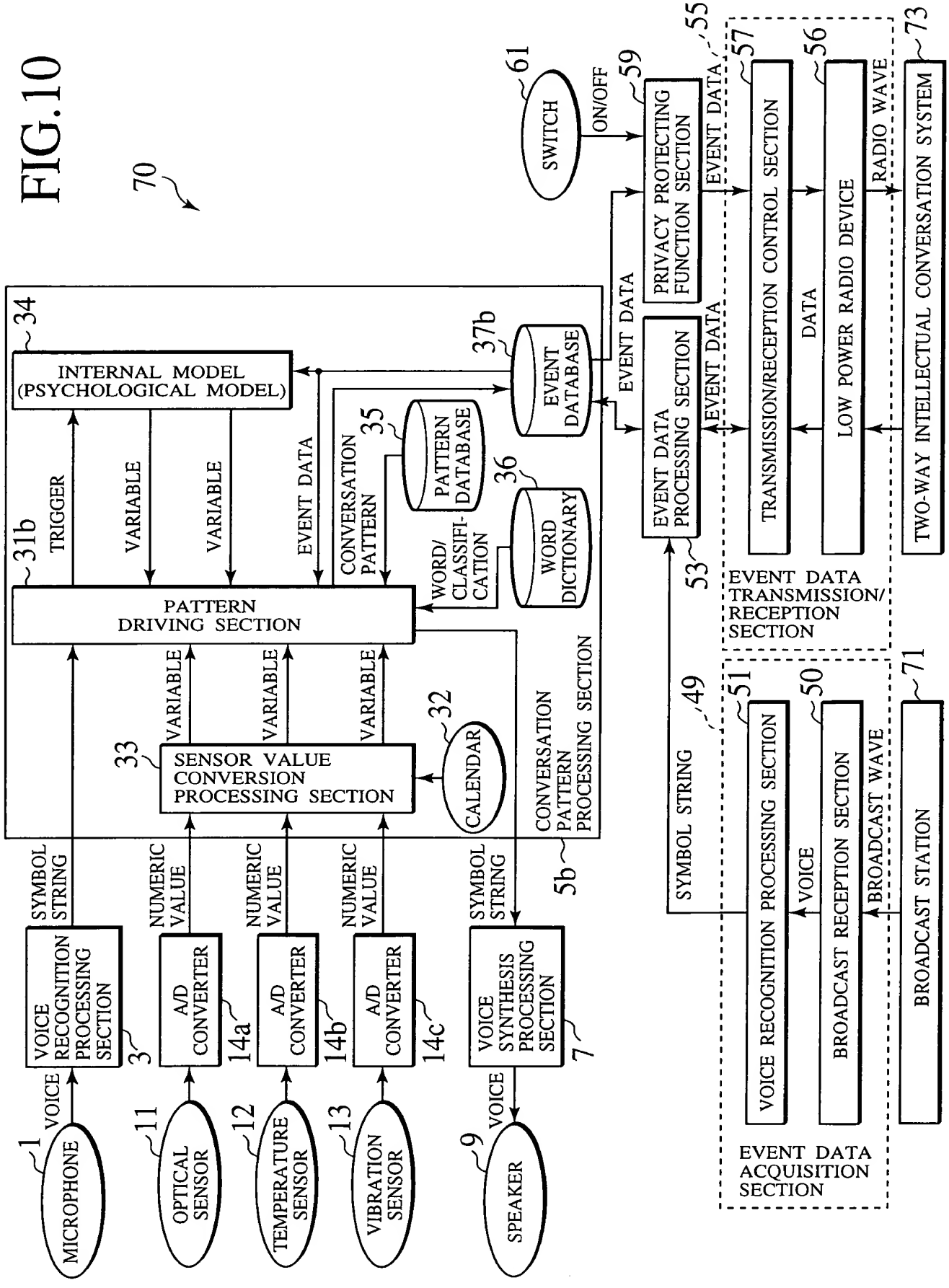
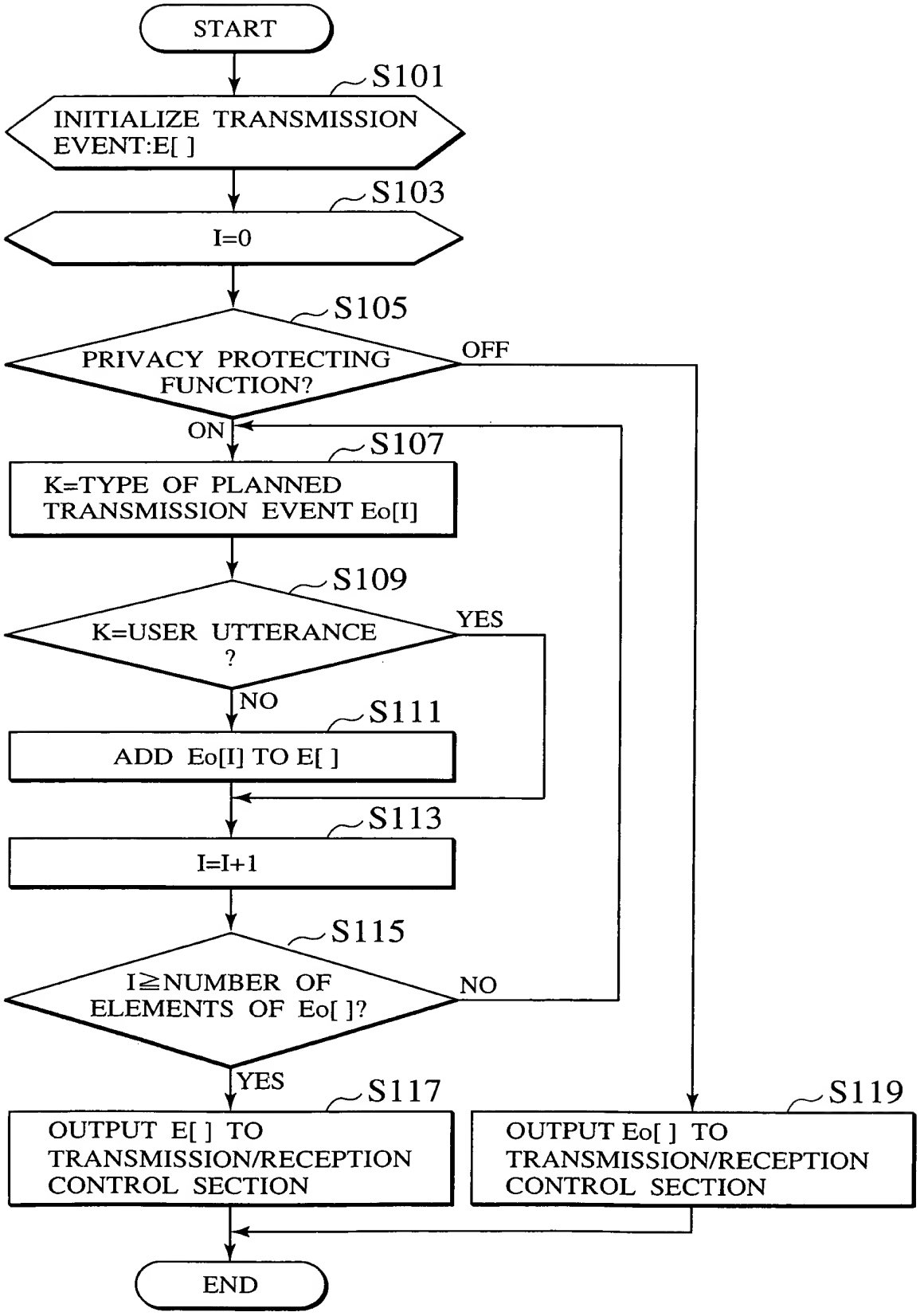

70
MICROPHONE
1
VOICE
VOICE RECOGNITION PROCESSING SECTION
3
SYMBOL STRING
OPTICAL SENSOR
11
A/D CONVERTER
14a
NUMERIC VALUE
TEMPERATURE SENSOR
12
A/D CONVERTER
14b
NUMERIC VALUE
VIBRATION SENSOR
13
A/D CONVERTER
14c
NUMERIC VALUE
SPEAKER
9
VOICE
VOICE SYNTHESIS PROCESSING SECTION
7
SYMBOL STRING
5b
CONVERSATION PATTERN PROCESSING SECTION
SENSOR VALUE CONVERSION PROCESSING SECTION
33
CALENDAR
32
VARIABLE
VARIABLE
VARIABLE
PATTERN DRIVING SECTION
31b
TRIGGER
VARIABLE
VARIABLE
INTERNAL MODEL (PSYCHOLOGICAL MODEL)
34
EVENT DATA
CONVERSATION PATTERN
WORD/ CLASSIFI-CATION
PATTERN DATABASE
35
WORD DICTIONARY
36
EVENT DATABASE
37b
SWITCH
61
ON/OFF
EVENT DATA
PRIVACY PROTECTING FUNCTION SECTION
59
EVENT DATA
EVENT DATA PROCESSING SECTION
53
SYMBOL STRING
49
EVENT DATA
TRANSMISSION/RECEPTION CONTROL SECTION
57
DATA
LOW POWER RADIO DEVICE
56
RADIO WAVE
TWO-WAY INTELLECTUAL CONVERSATION SYSTEM
73
EVENT DATA TRANSMISSION/ RECEPTION SECTION
55
VOICE RECOGNITION PROCESSING SECTION
51
VOICE
BROADCAST RECEPTION SECTION
50
BROADCAST WAVE
BROADCAST STATION
71
EVENT DATA ACQUISITION SECTION

FIG.11


START
S101
INITIALIZE TRANSMISSION EVENT:E[ ]
S103
I=0
S105
PRIVACY PROTECTING FUNCTION?
OFF
ON
S107
K=TYPE OF PLANNED TRANSMISSION EVENT Eo[I]
S109
K=USER UTTERANCE ?
YES
NO
S111
ADD Eo[I] TO E[ ]
S113
I=I+1
S115
I≧NUMBER OF ELEMENTS OF Eo[ ]?
NO
YES
S117
OUTPUT E[ ] TO TRANSMISSION/RECEPTION CONTROL SECTION
S119
OUTPUT Eo[ ] TO TRANSMISSION/RECEPTION CONTROL SECTION
END

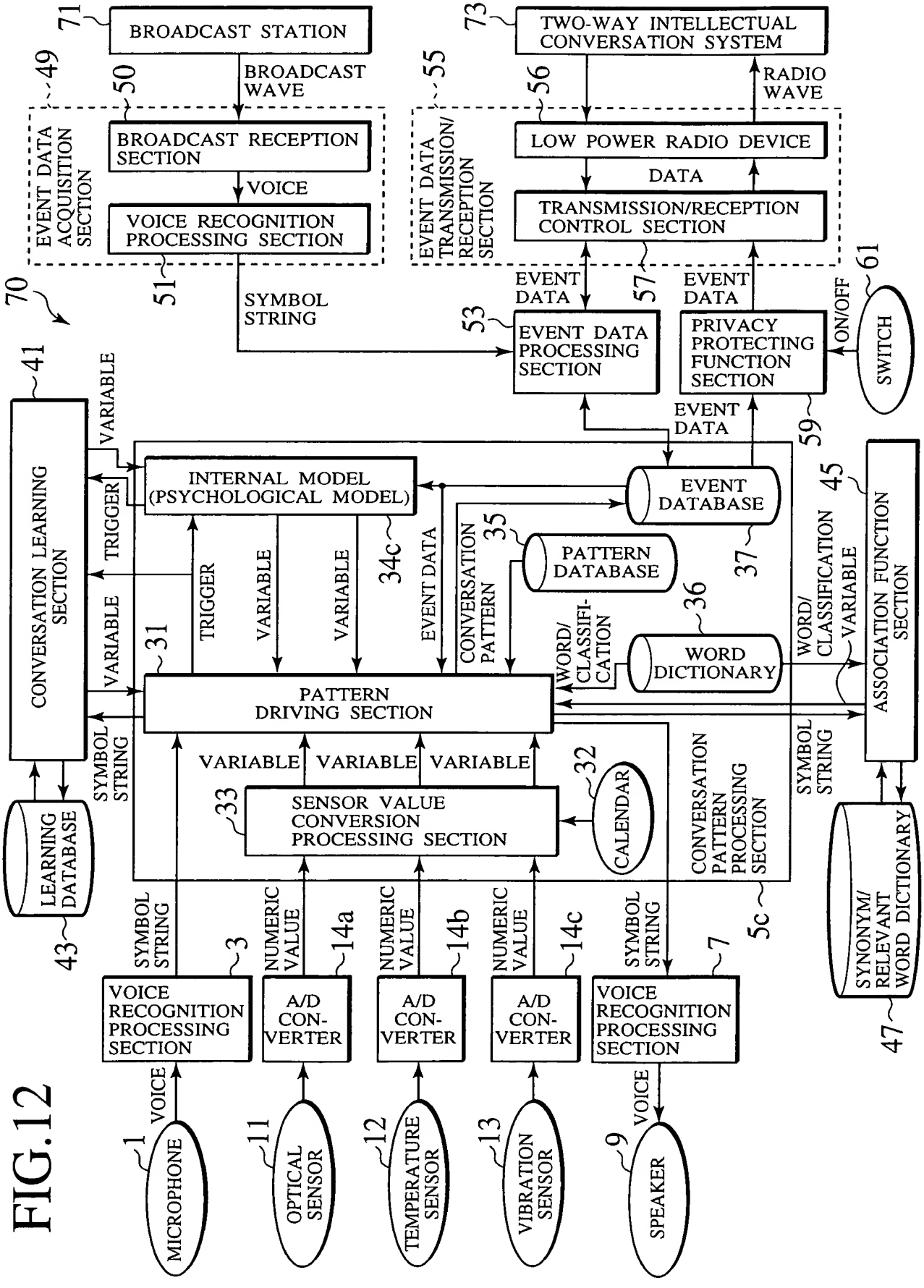

BROADCAST STATION
BROADCAST WAVE
BROADCAST RECEPTION SECTION
VOICE
VOICE RECOGNITION PROCESSING SECTION
EVENT DATA ACQUISITION SECTION
SYMBOL STRING
TWO-WAY INTELLECTUAL CONVERSATION SYSTEM
RADIO WAVE
LOW POWER RADIO DEVICE
DATA
TRANSMISSION/RECEPTION CONTROL SECTION
EVENT DATA TRANSMISSION/ RECEPTION SECTION
EVENT DATA
EVENT DATA PROCESSING SECTION
PRIVACY PROTECTING FUNCTION SECTION
ON/OFF
SWITCH
CONVERSATION LEARNING SECTION
VARIABLE
TRIGGER
INTERNAL MODEL (PSYCHOLOGICAL MODEL)
EVENT DATABASE
PATTERN DATABASE
CONVERSATION PATTERN
WORD DICTIONARY
WORD/ CLASSIFICATION
ASSOCIATION FUNCTION SECTION
PATTERN DRIVING SECTION
SENSOR VALUE CONVERSION PROCESSING SECTION
CALENDAR
CONVERSATION PATTERN PROCESSING SECTION
LEARNING DATABASE
SYNONYM/ RELEVANT WORD DICTIONARY
VOICE RECOGNITION PROCESSING SECTION
A/D CONVERTER
NUMERIC VALUE
MICROPHONE
OPTICAL SENSOR
TEMPERATURE SENSOR
VIBRATION SENSOR
SPEAKER
VOICE

FIG.12